

What is claimed is:

1. A lithographic printing original plate having a photosensitive layer on a substrate directly or on an another layer provided thereon, said photosensitive layer being made
5 of a crosslinked polymer having ink repellency, and having properties that the photosensitive layer is changed from ink-repellent to ink-receptive by irradiation with a light.
2. The lithographic printing original plate as claimed
10 in claim 1, wherein the photosensitive layer is a photosensitive hydrophilic resin layer obtained by crosslinking a photosensitive composition comprising a hydrophilic polymer, a crosslinking agent and a light absorbing compound.
- 15 3. The lithographic printing original plate as claimed in claim 1, wherein the photosensitive layer is a photosensitive hydrophilic resin layer obtained by crosslinking a photosensitive composition comprising a hydrophilic polymer, a crosslinking agent, a light absorbing compound and a
20 hydrophobic polymer.
4. The lithographic printing original plate as claimed in claim 2, wherein the photosensitive hydrophilic resin layer

1000000-0496001

has a phase separation structure consisting of a hydrophilic polymer phase and a hydrophobic polymer phase.

5. The lithographic printing original plate as claimed
5 in claim 3, wherein the hydrophilic polymer is a polymer
containing as a main component one or more monomers selected
from unsubstituted or substituted (meth)acrylamide,
N-vinylformamide and N-vinylacetamide, the hydrophobic
polymer is an aqueous dispersion polymer having an average
10 particle diameter of 0.005 to 0.5 μm and a film forming
temperature of not higher than 50°C, and the photosensitive
hydrophilic resin layer has a phase separation structure
consisting of a hydrophilic polymer phase and a hydrophobic
polymer phase.

15

6. The lithographic printing original plate as claimed
in claim 4 or 5, wherein the photosensitive layer has a property
which is locally foamed by irradiation with a light and changed
from ink-repellent to ink-receptive.

20

7. A process for producing a lithographic printing
plate, comprising irradiating the lithographic printing
original plate of claim 5 or 6 with a light having a wavelength
of 750 to 1100 nm.

FOI b7c - 0496000

8. A lithographic printing plate obtained by irradiating a lithographic printing original plate having a photosensitive layer on a substrate directly or on an another layer provided thereon, said photosensitive layer being made of a crosslinked polymer having ink repellency, with a light to change the photosensitive layer from ink-repellent to ink-receptive.

9. The lithographic printing plate as claimed in claim 8, wherein the photosensitive layer is a photosensitive hydrophilic resin layer obtained by crosslinking a photosensitive composition comprising a hydrophilic polymer, a crosslinking agent and a light absorbing compound.

10. The lithographic printing plate as claimed in claim 8, wherein the photosensitive layer is a photosensitive hydrophilic resin layer obtained by crosslinking a photosensitive composition comprising a hydrophilic polymer, a crosslinking agent, a light absorbing compound and a hydrophobic polymer.

11. The lithographic printing plate as claimed in claim 9, wherein the photosensitive hydrophilic resin layer has a

1000640-121401

phase separation structure consisting of a hydrophilic polymer phase and a hydrophobic polymer phase.

12. The lithographic printing plate as claimed in claim
5 10, wherein the hydrophilic polymer is a polymer containing
as a main component one or more monomers selected from
unsubstituted or substituted (meth)acrylamide,
N-vinylformamide and N-vinylacetamide, the hydrophobic
polymer is an aqueous dispersion polymer having an average
10 particle diameter of 0.005 to 0.5 μm and a film forming
temperature of not higher than 50°C, and the photosensitive
hydrophilic resin layer has a phase separation structure
consisting of a hydrophilic polymer phase and a hydrophobic
polymer phase.

15

13. The lithographic printing plate as claimed in claim
11 or 12, wherein the photosensitive layer is locally foamed
by irradiation with a light and changed from ink-repellent
to ink-receptive.

20

14. The lithographic printing plate as claimed in claim
12 or 13, wherein the light for the irradiation has a wavelength
of 750 to 1100 nm.